

# Contribution of Artificial Intelligence in B2B Sales: A Danfoss Case Study

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**Keywords**— Artificial Intelligence, Sales,  
B2B.

**Abstract** — The objective of the work is to evaluate the influence of Artificial Intelligence in the sales activities of B2B companies. The case researched was the Danfoss company, a multinational of Danish origin with B2B sales in more than 100 countries for the markets of refrigeration, heating, inverters and hydraulic in the main industries. A unique case study was employed through participatory observation, with an evaluation of annual reports and semi-structured interviews with 22 employees from various global sales areas, human resources, segment directors, regional presidents and members of the global executive committee who actively participate in defining the sales activities of each region, and globally through digital tools with Artificial Intelligence. In the organization studied, 4 dimensions were identified: Contributions, Possible Disadvantages, Current Moment and the Future with 8 categories of analysis: Internal Processes, Sales Efficiency, Sales Adaptation, Data Security, Behavioral Change, Traditional Salesman, Future Salesmen and the Future of the Company. The data analysis showed different results for each hierarchical level of the company on the contributions and convergences in relation to the Possible Disadvantages. In addition, it was identified that there is a low level of knowledge of Artificial Intelligence and its applications in sales activities and that all respondents do not see a Future without the use of Artificial Intelligence at Danfoss.

## I. INTRODUCTION

The first studies of Artificial Intelligence were developed by Alan Turing (1950) with the objective of demonstrating an acceptable explanation of intelligence. Moreover, with the emergence of computer systems with powerful processors, the field of use was expanded, entering the world of B2C and B2B sales. This technology was compared to Thomas Edison's use of electricity which, according to Andrew Ng (Lynch, 2017), if well used, can be applied alone to revolutionize dozens of different industries.

According to Syam and Sharma (2017), experts suggest that the next decades will herald the fourth

industrial revolution, which will be driven by technology of digitalization, information and communication, machine learning, robotics and Artificial Intelligence; and will further shift decision making from humans to machines. This decision making is more complex due to the amount of information available in the digital media, impacting the decisions of the sellers within B2B sales activities. Rich and Knight (1991) defined Artificial Intelligence as a science that studies human tasks that can be performed by computers, considering the current data processing capacity.

Dubinsky (1981) was the initial milestone in the discussion of a B2B sales process that is based on seven stages with tasks well defined by the salespeople:

prospecting, preparation, approach, presentation, objections, closure and follow-up. Homburg, Müller and Klarmann (2011); Kock and Rantala (2017) and Ferreira, Paschen and Wilson (2020) used Dubinsky's (1981) model as a reference in their research on the influence of Artificial Intelligence on sales. The influence of Artificial Intelligence in each step was evaluated with its possible benefits, risks and complements in current sales functions.

Zhang, Mookerjee and Zhao (2018) suggest that Artificial Intelligence and machine learning are the greatest forces for the fourth industrial revolution, impacting the sales area in various parts of the business. Among such benefits, it is relevant to mention that sales representatives no longer need to enter data manually; marketing professionals no longer need to use manual A/B tests to select the best social media images for their next campaign; and customer service managers no longer need to dig through long lists of incoming service calls to prioritize their time.

Singh et al. (2019) analyzed in a framework the contribution of Artificial Intelligence in three domains: (a) the sales profession, (b) sales professionals: as an organization, and (c) sales professionals: as an individual. In this context, the analysis was based on individual, sales profession and company focusing on general contributions in B2B sales activities in the three domains, while Ferreira et al. (2020) dedicated themselves to the influence of Artificial Intelligence based on a classic B2B sales process by Dubinsky (1981). The complements between the studies and their general contributions in B2B sales activities were analyzed.

Moreover, especially when considering the traditional industrial market, with its complex technical requirements and fields of application, questions arise about the possible interactions between the customer and the new technologies. For example, how can a team studying the future of new technologies in these markets benefit from information related to customers and products for the development of a new technology? According to Brecht Gentner, Stelzer and Ramosaj (2018), researchers and professionals try to fill this gap of information transference of the market related to products, as the ideation and initial stages of the development process, that is, to increase the interaction between the market and the development inside the companies. In the future, these interactions can occur in an automated way, that is, through digital technologies, such as Artificial Intelligence and machine learning (Ameri & Dutta, 2005), with the support of the sales team that has the daily relationship with the customer.

Given this context, the main purpose of this research is to analyze and evaluate the influence of Artificial

Intelligence on Danfoss' B2B sales activities in the global context.

## II. LITERATURE REVIEW

After the mid-1940s with the end of World War II and the invention of the first computer, the first studies on Artificial Intelligence began. The divulgation of Alan Turing's Work (1950) was considered the initial study in this chronology of evolution, in Computing Machinery and Intelligence, known as Turing's Test, presenting a way to verify if a machine has some sustainable human intelligence capacity. However, the first in-depth discussions on the subject began in 1955, with "A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence," at the University of Dartmouth, with 10 researchers under the leadership of McCarthy J., a follower of the logistic line and with the participation of Minsky M.L. (1955), one of the researchers aligned with the connectionalist line of Artificial Intelligence. In this sense, there are several lines of studies and definitions with several applications in industries. According to Norvig and Russel (2010), Artificial Intelligence can be used in any human intellectual application, serving any field and task. Therefore, Artificial Intelligence is not only about opening new markets, but it can also consist in offering new forms to existing and mature ones.

### **Contribution of Artificial Intelligence in B2B Sales:**

The first studies of Artificial Intelligence in a more commercial way, that is, that brought contributions to the sales process, started in the 80s, through the study of McDermott (1982), who developed a program to configure customer orders, already demonstrated in the previous section. This application brought a huge contribution of Artificial Intelligence in sales within the B2B sales process, using rational thinking in their studies. With Dubinsky's (1981) studies on the sales process, it was possible to present the tasks of B2B salespeople at each stage. In addition, Ferreira et al. (2020) and Homburg et al. (2011) used the sales process of Dubinsky (1981) to demonstrate the contribution and influence of Artificial Intelligence in each stage of B2B sales, which will be detailed in this section. Singh et al. (2019) presented the contribution of Artificial Intelligence in three domains; (1) Sales Profession, (2) Sales Professional: company and (3) Sales Professional: individual. Many of the aspects already demonstrated in the other studies were highlighted by Antonio (2018) with the five contributions of Artificial Intelligence in sales.

Business managers for B2B sales are always concerned with serving customers at all stages of the sales process. In the 1940s, sales professionals used mainly manual

analog technologies to enable their B2B sales (examples: maps, conventional phones, etc.). The launch of the first cell phones - many years ago - has already greatly improved the contact between clients and sales professionals, according to Paschen, Pitt and Kietzmann (2020), and with Artificial Intelligence the contributions in sales activities are even greater with the use of data in a more effective way.

Narayanan, Asur, Nair, Rao and Kaushik (2012) and Rizkallah (2017) define the types of data that can be used within an Artificial Intelligence system. The data can come in two forms: structured, which encompass standardized sets in numerical form (examples: demographic data, web clicks or transaction data), and unstructured, non-numerical and multifaceted in the form of text, audio or images (examples: comments, likes, reviews, requests, photos, videos). An estimate today is that 80% of the data is unstructured according to Rizkallah (2017) and they are increasing 15 times faster than structured data (Narayanan et al., 2012). In addition, data are values that describe an item or person with respect to qualitative or quantitative variables, but only when a data is processed and analyzed can it be used for decision making (Bellinger, Castro, & Mills, 2004). Therefore, correct data are fundamental for the use of Artificial Intelligence and for B2B sales. The contribution of sales teams is essential in this process with the decrease of interaction between people.

Kietzmann, Paschen and Treen (2018) and Syam and Sharma (2017) emphasize the increased interaction between humans and machines with Artificial Intelligence, enabling computers to solve problems with minimal or no human intervention. In this sense, sales teams can focus on processes in which human interaction is fundamental within the sales process. In addition, Ferreira et al. (2020) point out that innovative technologies have modified the B2B sales format, especially technologies with deep advances in information and communications, such as digitalization and Artificial Intelligence. Other technologies developed in the past have greatly influenced the B2B sales process, helping with collection, processing or communication. However, Artificial Intelligence has influenced the final decision making in sales.

For a more precise understanding of the contribution of Artificial Intelligence in B2B sales, it is necessary to detail the traditional sales process and how salespeople interfere in each step of the process. Moreover, as the different types of data: structured or unstructured, are worked within this process. The description of each step is based on Dubinsky's classic sales model (1981).

Dubinsky (1981) divided a sales process into seven steps, detailing the seller's tasks in each step (Figure 1). In

the sales process there are 7 sequential steps with very specific tasks that are described below.

- (1) Prospecting
- (2) Preparation
- (3) Approach
- (4) Presentation
- (5) Dealing with objections
- (6) Closing
- (7) Follow-up

The first step in the sales process is (1) Prospecting - also known as lead generation. It is the process of searching for potential clients, which is aligned with the task of marketing segmentation (Jarvinen & Taiminen, 2016; Syam & Sharma, 2017). In the classic version, sales managers filter out potential leads, which are opportunities raised by sales teams with potential to become an effective business for the company.

After the identification of the prospection, and subsequent evaluation, it is moved to the next steps: (2) Preparation and (3) Approach, which can be examined together in our analysis (Syam & Sharma, 2017). These two steps serve to acquire more details about the leads: needs, habits, preferences and others relevant to initiate the first contacts with the client. While step (2) Preparation is related to internal work to collect information, step (3) Approach is related to building the relationship with the client.

In step (4) Presentation, the sales firm presents the characteristics and the solution according to the customer's needs, and may include a prototype of a product or solution (Syam & Sharma, 2017). In step (5) Dealing with objections, during the sales presentation, the purchasing firm may generate questions, statements, indications of dissatisfaction or a non-verbal expression that may signal that a customer intends to buy. Step (6) Closing can be examined in conjunction with step (5), as the closing is connected with the management of possible objections.

The last step (7) Follow-up can be divided into two components: support for a current order or follow-up after closing an order. In the first component, the follow-up can present the current order status, such as delivery, stock, etc., and the following component can present other services or complementary products (upselling or cross-selling), which will be examined in the next chapters. In the classic sales model, all tasks described are done by internal or external sales teams.

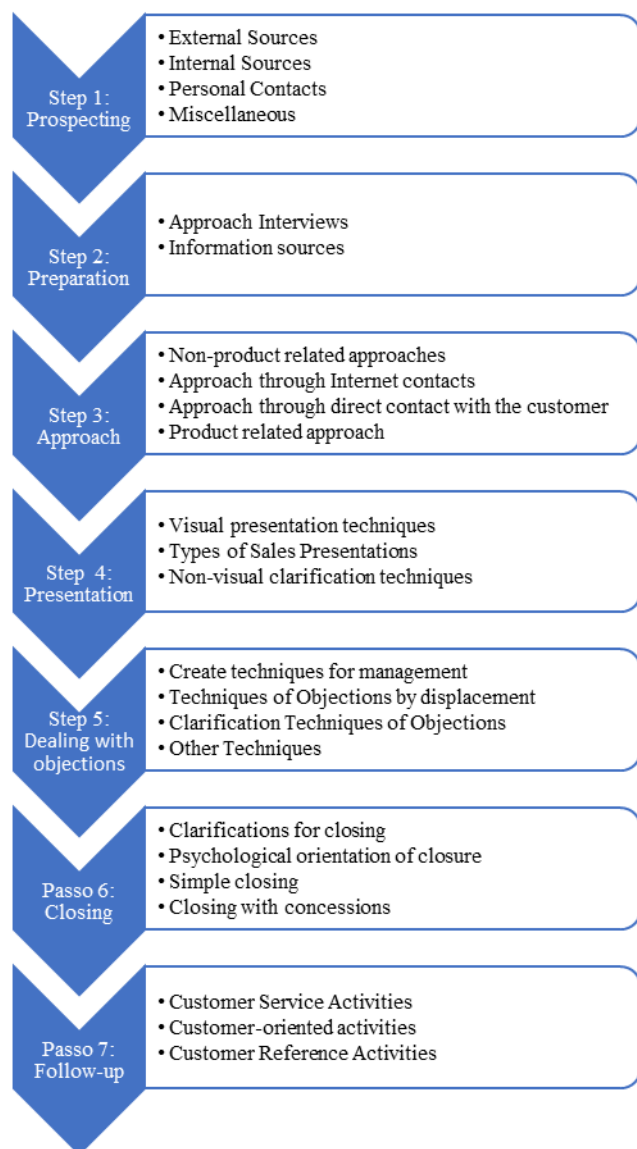


Fig.1: 7 classic sales steps summarized

Source: Adapted from Dubinsky (1981).

Homburg et al. (2011); Kock and Rantala (2017) and Ferreira et al. (2020) used Dubinsky's (1981) model as a reference in their research on the influence of Artificial Intelligence on sales, but with only 5 steps, incorporating (2) Preparation and (3) Approach, (5) Dealing with objections and (6) Closing, because they can use the same tools of Artificial Intelligence to obtain the results. The authors also point out that Artificial Intelligence will not replace current vendors, it will only help in decision making at each step.

Felder (2016) has identified other sales areas that can use chatbots or bots, increasing efficiency and changing vendors' daily tasks: (1) customer retention service and (2) business operation. These two points can be widely used in the step (7) follow-up of the classic sales process. Another

important point highlighted by Felder (2016) is cyber security, as companies are working with internal and confidential data. Therefore, the IT area will be impacted by these structural changes in the sales process.

Antonio (2018) highlights five contributions of Artificial Intelligence in B2B sales in alignment with Ferreira et al. (2020): pricing optimization, which can be used in step (5) of the sales process, upselling and crossselling, which are used in step (7) follow-up to cover new needs. Two additional contributions are not connected in the sales process, but in the general sales management: forecasting, based on sales history and sales performance, improving the general strategies of a B2B company.

Singh et al. (2019) analyzed through a framework the contribution of Artificial Intelligence in three domains: (a) the sales profession, (b) sales professionals: as an organization and (c) sales professionals: as an individual. This framework mapped through research the priorities and issues motivated by digital sales and Artificial Intelligence (Figure 2).

In the domain (1) Sales Profession: automation and value creation sales digitalization, including the use of Artificial Intelligence, is a key trigger for changes to create value in the sales profession according to Singht et al. (2018). Specifically, companies are increasing (1) the digitalization of sales channels to streamline buying and selling processes, (2) the digitalization of the sales hopper through decisions supported by Artificial Intelligence, and (3) the digitalization of the offering through a digital transformation where customers can see in detail the products and services they are acquiring.

In the sequence in the domain (2) Sales professionals: organizational issues, the solutions, mainly for B2B sales, are more customized, requiring a wider domain of the vendors in the products offered. For Tuli, Kohli and Bharadwaj (2007), most vendors, especially B2B, expect to provide solutions more in line with customer needs, rather than standard products and services. In this way, digitalization with Artificial Intelligence can generate a co-creation of solutions with clients and identify needs that previously did not exist.

In domain (3) Sales Professionals: individual issues, Artificial Intelligence can change the tasks of salespeople, generating some issues for individuals in relation to their functions, affecting and challenging the functioning of organizations. In addition, it can generate new skills for salespeople in using these new tools with Artificial Intelligence.

The framework of Singh et al. (2019) complements the Artificial Intelligence contribution studies focused on the sales process, as it covers other aspects, such as the



function of the salesperson, the sales professional and the organization. In this sense, it presents the influence of Artificial Intelligence in all B2B sales activities, not only limited to the sales process and its tasks. This framework becomes important because the sales activities of B2B companies are not only limited to the sales process, the entire organization needs to be transformed for Artificial Intelligence to adequately influence (Singh et al., 2019).

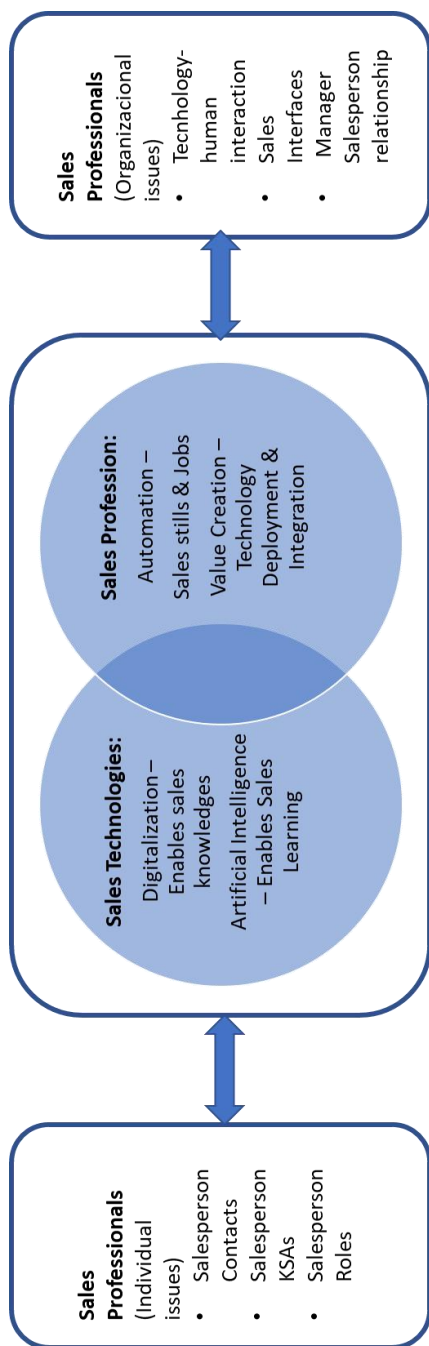


Fig.2: Framework

Source: Adapted from Singh et al. (2018).

**Possible barriers and limitations to the use of Artificial Intelligence for B2B sales:** Due to the vast amount of data available and the great change in customer preferences, a long sales process with multiple influencers making purchasing decisions, in addition to market changes, decisions can change rapidly (Cotter, Guan, Mahdavian, Razzaq, & Schneider, 2018; Ingram, Louis and Schroeder, 2004), and can cause difficulties in the use of Artificial Intelligence in B2B sales, according to Ferreira et al.

In addition, systems with Artificial Intelligence need data from the environment (inputs) and manipulation of this data (process), to generate information (output) back into the environment (Paschen et al., 2019). The environment data are generated by the sales team, which needs to change the current behavior of individualization of information. This point can generate some barriers, making it difficult to obtain effective results.

These barriers or resistance generated by employees who are involved in this sales process or some concerns in their current positions that may become obsolete are possible, according to Paschen et al. (2019). Leadership positions should actively participate in this change process (Seijts & Gandz, 2018) to smooth the transition from using Artificial Intelligence in B2B sales. In particular, management teams should improve team involvement in this era of rapid change with digitization (Crittenden & Crittenden, 2015). A key point in this regard, according to Paschen et al. (2019), is that leadership should make clear to the team that human contact remains a critical factor within the sales process.

Another fundamental point is data security: when more information is collected, stored, security tools are extremely important (Santanen, 2019). The leadership needs to revisit all internal policies and practices to ensure the privacy and security of customer and company data.

Training is extremely important in this phase of adaptation. Employees need to develop new skills to extract positive results from Artificial Intelligence systems (Kaplan & Haenlein, 2019), and training is essential to help employees be adaptable according to Pachen et al. The sales team needs to understand well the benefits and limitations of using Artificial Intelligence.

Artificial Intelligence can contribute to current sales processes, but a period of transition and customer support is important in this phase. Artificial Intelligence can change the customer experience, and each company is in a different phase of using the technology. The sales team needs to identify customers who are hesitant to use Artificial Intelligence and are more accustomed to traditional sales service. Managing the customer

experience is conceptualized as a higher order construct that encompasses certain cultural mindsets, strategic directions and firm capabilities that are focused on managing each point of contact throughout the scope of the customer's journey (Homburg, Jozic, & Kuehn, 2017).

A system with Artificial Intelligence can analyze data, particularly unstructured data, usually in real time, and turn it into useful information. However, human intelligence is fundamental in decision making. Artificial Intelligence is limited in presenting emotional and social competencies (Left & Clear, 2020; Kaplan & Haenlen, 2019), which are particularly important in B2B sales and will continue to be critical in human tasks within the Artificial Intelligence sales process.

### III. THE CASE SETTING

The specific analysis unit for this study is the company Danfoss in its global context, founded in 1933 in Denmark by Mads Clausen (1905-1966). The company has its headquarters in Nordborg, Denmark, with subsidiaries in more than 100 countries and about 28,000 employees.

For the purpose of this study, were considered members of senior management, chairman, regional presidents, presidents of each segment, global human resources VP, managers and sales directors of Latin America and Brazil. This includes managers responsible for geographically dispersed divisions or units of an organization, as well as functional managers, considered as middle management (responsible for marketing, human resources and financial sectors) and executives responsible for teams or projects in a total of 22 respondents.

Based on the analysis of the documents provided by the company, such as the global sales reports, presentations and their strategies aimed at digitization in all areas, it was possible to identify that the influence of Artificial Intelligence on sales began in 2014, when the segments began to use digitized sales tools through the Sales Force platform, initiating a digitization process in the sales process of Danfoss. The team responsible for the global development of the tool is in the division called Business Excellence, focused on developing the platform for all segments. This team, together with the Sales Force team, develops the dashboards and algorithms that are adapted to the Danfoss sales process, so the sales experts support the developer of the tool.

Despite the start in 2014, Danfoss spent two years using the Sales Force without the development of sales steps, i.e. the tool was standard without algorithms and dashboards aligned with Danfoss' processes. Only in 2016, the tool started to be used with some features more aligned

with the Danfoss sales area with the development of MyPipeline (Figure 3). These actions were instrumental in promoting the use of digital tools, encouraging Danfoss to verify the influence of Artificial Intelligence on sales. The main actions were:

- Creation of a global Business Excellence area, playing the role of sales specialists, corroborating with the literature.
- Development of the tool for the needs of Danfoss.
- Global directors encouraging each region and segment.
- Setting regional goals by using the Sales Force.
- Periodic training for sales in this new process.
- Regular meetings with regional leaders.

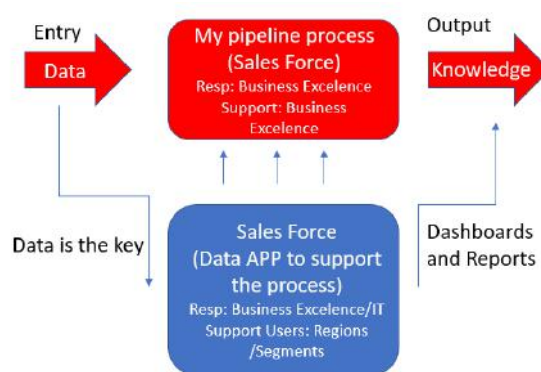


Fig.3: Sales Force MyPipeline development

Source: Elaborated by the author.

The process of digitalization of the entire company today is led by the executive committee and the presidents of the segments, with the creation of the ONE ERP program, started in 2018, with completion scheduled for 2022. This program aims to use only one platform for all the company's websites, digitizing all its processes, reaching the sales activities. Figure 4 shows the steps of scanning the ONE ERP program. This research analyzes the contribution of Artificial Intelligence in the sales stage and its possible interactions with other areas.

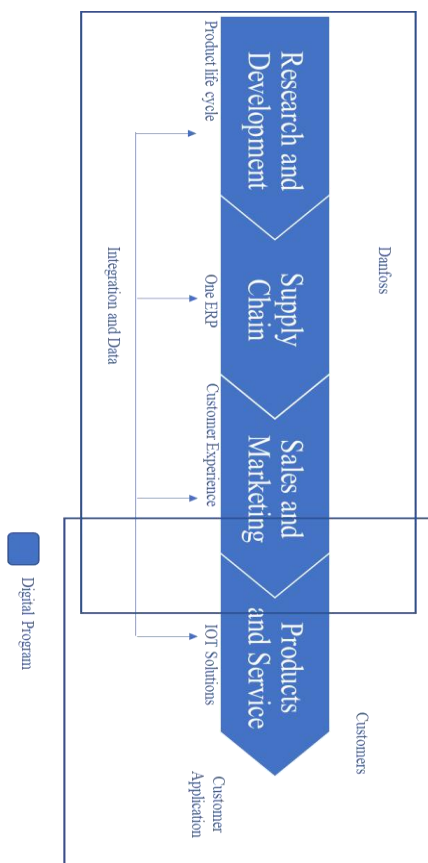


Fig.4: Program One ERP

Source: Elaborated by the author.

In the Danfoss case, the influence of Artificial Intelligence on sales through new digital tools is notorious, as is a process of digitizing all areas that will support sales by 2022. In this phase, different projects were presented and can be used in several sales processes already described and others still in the process of implementation. One point to highlight in the study, and especially within the sales team, is the constant change of professionals to other regions (even countries), different sales areas within the company, competitors and even activities related to sales, taking into account the know-how acquired by these professionals. Artificial Intelligence supports the company by keeping the information in its systems, reducing the need for a traditional salesperson, mitigating these changes. Moreover, the variety of different products and applications changes the way of acting in each type of customer.

**Interview Analysis:** Faced with this empirical research context, Table 1 depicts the dimensions, categories and subcategories used in the research investigation. To better understand the theoretical model relating to Artificial Intelligence within the sales activities of the Danfoss

company, the data collected was treated based on the categories of analysis created (Bardin, 2011).

Table 1 - Research Analysis Categories

Dimensions	Categories	Subcategories
Contributions	Modification of internal processes	New digital channels Sales process with AI
	Sales Efficiency	CRM Tools with AI
Possible Disadvantages	Sales Adaptation	Decreasing Human Decision and Interaction Time Management
		Data security
Current Moment	Behavioural change	HR in selection and training for AI
	Traditional sale	Low IA knowledge
Futuro	Future salesmen	
	Future of the company	

Source: Elaborated by the author.

The exploratory analysis through Nvivo provides the cluster nodes that indicate the similarity grouping by encoding in a total of 4 terms. In this way, the nodes function as variables that gather descriptive information of the text, allowing the identification of trends and ramifications in the similarity of the narratives, taking into account the coded words in each node and the sources of these text units. In this analysis, the relationships between the categories were considered by means of diagrams of similarity by coding, according to the Figure 5:

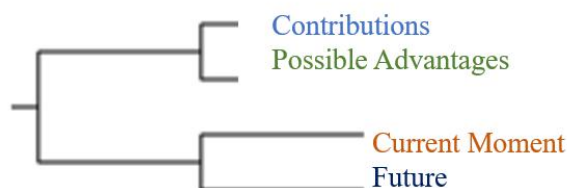


Fig.5: Distribution of quotations by dimensions

Source: Survey data consolidated in Nvivo 11.0.

When analyzing the total group of interviews, one notices the formation of two branches in the similarity of the narratives. There is a group formed in the first branch with the contributions and possible disadvantages and a second branch between the future categories and the

current moment. The first branch, with a larger quantity of quotations, presents narratives that observe the contributions of Artificial Intelligence in sales, but with possible disadvantages in their application.

Authors such as Ferreira et al. (2020); Cotter, Guan, Mahdavian, Razzaq, Schneider (2018) present the same conclusions in their studies, pointing out several contributions at various stages of sales processes, but highlighting some points of observation related to internal barriers, data security, data quality. Despite the possible disadvantages, the authors understand that the risks can be mitigated within companies.

In this sense, the interviewees corroborate with the authors, presenting several benefits, mainly in the areas of support, leads and follow-ups, but with many observations regarding the adaptation of traditional practices and applicability of tools within the rational and human dimensions of Artificial Intelligence. Many respondents believe that Artificial Intelligence can replace sales in rational tasks, but human touch points will not be replaced by Artificial Intelligence in the short term.

In the second branch, the interviewees make a relationship between the current moment with a low knowledge of Artificial Intelligence and the future of the company and the salesmen. At this point, the literature of the interviewees presented studies on the applicability of Artificial Intelligence and the use of specialists in the development of tools. The Business Excellence area plays the role of the experts in sales in the development of the tools, in this connection between the current moment and the future of Danfoss with Artificial Intelligence.

Authors such as Singh et al. (2019), Antonio (2018), Homburg et al. (2017), consider the contribution of Artificial Intelligence as a journey of experimentation and adaptation and there is no future in sales without tools with Artificial Intelligence corroborating with the 22 respondents. Therefore, a good diagnosis of the current moment will help in this journey of experimentation of tools with training to increase the knowledge of the team and applicability of the tools in the company.

#### IV. CONCLUSION

The literature suggests that the use of Artificial Intelligence will change the way of doing business in various industries (Linch, 2017; Syam & Sharma, 2017), and the traditional sales process, according to Dubinsky (1981), can be more effective using Artificial Intelligence in each stage: prospecting, preparation, approach, presentation, dealing with objections, closure and follow-up, according to Antonio (2018).

In this context, the importance of using data in a more effective way and an alignment of the sales profile is highlighted (Kock & Rantala, 2017). In addition, Artificial Intelligence can improve the performance of sales teams through better pricing, forecast optimization, crossselling and upselling (Antonio, 2018). In general there is a positive perception regarding the influence of Artificial Intelligence on sales. The main advantages pointed out are better pricing, time optimization, process efficiency, forecast and pipeline. This finding is consistent with studies that understand that Artificial Intelligence can increase the company's ability to generate more results (Feldner, 2016; Antonio, 2018).

The 22 respondents confirmed that the level of knowledge of Artificial Intelligence at Danfoss is very low at all levels and especially with salespeople, and is one of the main barriers to using Artificial Intelligence. The analysis of the responses seems to indicate that despite the use of Artificial Intelligence and the implementation of new CRMs in the company, the initiatives do not focus on explaining the technology, only on implementing the tools. Another point very highlighted was the use of data in a correct way. Algorithms need external information, and vendors have a key role in this point, corroborating with Paschen et al. (2019). However, the company has created an area dedicated to the development of Artificial Intelligence tools, and there is active participation from all levels of the company through regular global and local meetings, working as facilitators within Danfoss. In addition, respondents understand the benefits and influences in the sales process, despite the little knowledge, facilitating the process of use and influence.

The respondents listed several gains, from customer service tools using chatbots, as a productivity gain within the sales process from the first stage of leads, to the follow up, already in an after-sales process. In addition, the history of sales information was highlighted, as there are frequent changes in the Danfoss sales teams. However, some limitations were highlighted. One of the examples cited was that of salespeople who might not have autonomy in decisions, acting as an intermediary between the responses of an Artificial Intelligence algorithm and the needs of the end customer. In this context, salespeople begin to play a role of passing on information, with the loss of experience and history of the salesperson with customers. Depending on the degree of utilization and complexity of the algorithm, it can generate internal competition between salespeople and Artificial Intelligence, causing slowness, loss of qualified professionals or rework.

In addition, respondents understand that this decrease may impact personal relationships, causing a major change



in the behavior of current sellers and buyers more accustomed to face-to-face visits. On the other hand, it would increase the efficiency in sales, since the sellers would focus on more important topics to close a deal, and the face-to-face contact would be more effective. The 22 interviewees understand that there will be no B2B sales without the use of Artificial Intelligence, aligned with Antonio (2018), in his research.

This research corroborated the findings of Ferreira et al. (2020), which emphasize that Artificial intelligence has modified the B2B sales process as well as the way of relating to customers. Besides, they suggest that the process of use in sales is a journey of experimentation, in other words, the authors understand the need for training and participation of all levels of the company aligned with the respondents of the interviews.

**Contributions, limitations and suggestions for future research:** This research presents arguments in the discussion about the contribution of Artificial Intelligence in B2B sales in traditional industrial companies that use a traditional sales process.

It seems a consolidated knowledge that Artificial Intelligence can contribute to a more optimized sales management for industrial companies, developing new competencies in pricing, forecasting and a contribution at each stage of the sales process. According to Norvig and Russel (2010), there are many fields of studies in various industries, most are aligned with studies related to thinking as a human, i.e. activities such as decision making, problem solving and learning, within the human dimension (Bellman, 1978).

This research, however, has some limitations. One of them is related to the single case study methodology. According to Yin (2015), although the case study allows a greater understanding of the subject studied, as a focus on "why" and "how", such a study limits the generalization of research findings. Another limitation refers to the process of collecting data for the case study and the participative observation of the researcher who is also an employee of the company researched, which are based on the perceptions of respondents about the contribution of Artificial Intelligence in sales. Such perceptions can have biases, for instance, certain functions exercised in their day by day, or certain subject or topic that has been the target of a more deep discussion between the parties.

Considering this scenario of contributions and limitations, this dissertation suggests as a theme of new research the deepening of contributions in a regional way, considering more specific segments, and a participation of salesmen who are directly in contact with customers.

This work has brought the contribution that Artificial Intelligence by itself does not guarantee an effective result in sales, because it depends on good management in its implementation with the mitigation of possible barriers and limitations and does not answer which are the effective gains for this result. Hypotheses can be raised, such as lack of knowledge of technology in High Management, lack of knowledge of the benefits about the contribution in the sales team or issues purely related to a good communication between the levels and regions of the company, but there are not enough elements in this dissertation to support any conclusion in this respect.

Another contribution would be to map in a quantitative way the influence of the sellers on the adoption of Artificial Intelligence on sales in each segment. Although the advantages identified in this work corroborate the literature on the subject and throw a little light on the use in some phases of the sales process, there is not yet a detailed study prioritizing the use of Artificial Intelligence to the detriment of the current sales process.

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